**Rapid Assessment Reference Condition Model**

The Rapid Assessment is a component of the LANDFIRE project. Reference condition models for the Rapid Assessment were created through a series of expert workshops and a peer-review process in 2004-2005. For more information, please visit www.landfire.gov. Please direct questions to helpdesk@landfire.gov.

**Potential Natural Vegetation Group (PNVG):**

**R#PIJEsp** Pine Savannah - Ultramafic

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**General Information**

*Contributors* (additional contributors may be listed under "Model Evolution and Comments")

**Modelers**
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**Reviewers**
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**Vegetation Type**

- Woodland

**Dominant Species***

- PIJE
- PIMO
- PSME
- ABMA

**General Model Sources**

- Literature
- Local Data
- Expert Estimate

**LANDFIRE Mapping Zones**

- 1
- 8
- 2
- 9
- 7

**Rapid Assessment Model Zones**

- · California
- · Pacific Northwest
- · Great Basin
- · South Central
- · Great Lakes
- · Southeast
- · Northeast
- · S. Appalachians
- · Northern Plains
- · Southwest
- · N-Cent.Rockies

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**Geographic Range**

This woodland type occurs in Southwest Oregon and Northern California on serpentine soils derived from ultramafic rocks.

**Biophysical Site Description**

These dry sites are easily recognized due to the serpentine soils, and are more pronounced on southern aspects. At elevations from 200 to 3500 ft ASL, the sites will likely be dominated by Jeffrey pine. White pine occurs at 5000-7000 feet. Soils are usually shallow, and surface rock averages 8-27 percent. However, the defining character for the soil is the mineral nutrition rather than its depth.

This type represents about 20 percent of the total range of Jeffrey pine.

**Vegetation Description**

Savanna woodland that can be divided into two subtypes: Jeffrey pine and western white pine.


Plant association PIMO3/XETE. -- White pine subtype conifer associates include Shasta red fir. Understory dominated by beargrass, with a diversity of herb species common. Herbaceous layer strongly dominated by grasses, notably Idaho fescue, and serpentine-adapted herbs. Occasional ceanothus and manzanita.

**Disturbance Description**

Historically, these woodland types had frequent low-severity fire (Fire Regime I). However, now there is

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*Dominant and Indicator Species are from the NRCS PLANTS database. To check a species code, please visit http://plants.usda.gov.*

8/11/2008

Page 1 of 4
higher susceptibility to stand replacing fire because of fire exclusion.

**Adjacency or Identification Concerns**
Also found in northern California on similar sites. These woodlands are usually found within a matrix of mixed conifer and mixed evergreen stands. However, their identity lies in the soil conditions, rather than enviromental gradients.

This PNVG may be similar to the PNVG R1PIJE from the California model zone.

**Scale Description**
Regionally a relatively small part of the landscape, but of great value for plant diversity. Patches in thousands of acres. However, disturbance patches were occasionally smaller in mixed severity fires.

**Issues/Problems**
Other disturbances in this type include wind-weather-stress, insects-disease, and competition-lack of seed. However, these disturbances were not modeled in VDDT.

**Model Evolution and Comments**
Note this type is defined as only occurring on ultramafic geology-- model does not apply to Jeffrey pine on other areas.

One reviewer suggests that the range of fire frequency be qualified by the biomass productivity, which is keyed to soil chemistry. Furthermore, this PNVG is considered a 'woodland' type, but it includes some sites that are dominated by shrubs.

[Throughout the model, replacement fires reset to Class A, and surface fires recycle into the same class.]

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**Succession Classes**

Succession classes are the equivalent of "Vegetation Fuel Classes" as defined in the Interagency FRCC Guidebook (www.frcc.gov).

<table>
<thead>
<tr>
<th>Class A</th>
<th>15 %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Early1 PostRep</td>
</tr>
<tr>
<td>Scattered Jeffrey pine and/or white pine and incense-cedar seedlings and saplings with herbaceous understory.</td>
<td></td>
</tr>
</tbody>
</table>

**Indicator Species* and Canopy Position**

| PIJE |
| PIMO |
| CADE27 |

**Upper Layer Lifeform**

- [ ] Herbaceous
- [ ] Shrub
- [ ] Tree

**Fuel Model**

no data

**Structure Data (for upper layer lifeform)**

<table>
<thead>
<tr>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover</td>
<td>0 %</td>
</tr>
<tr>
<td>Height</td>
<td>no data</td>
</tr>
<tr>
<td>Tree Size Class</td>
<td>no data</td>
</tr>
</tbody>
</table>

- Upper layer lifeform differs from dominant lifeform. Height and cover of dominant lifeform are:

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**Class B** 45%

Mid1 Open

**Description**
Mix stands of Jeffrey pine and/or white pine with other conifers, typically incense-cedar and Douglas-fir. Park-like.

**Indicator Species**
PIJE
CADE27
PIMO
PSME

**Upper Layer Lifeform**
- Herbaceous
- Shrub
- Tree

**Fuel Model** no data

**Structure Data (for upper layer lifeform)**

<table>
<thead>
<tr>
<th></th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover</td>
<td>10%</td>
<td>40%</td>
</tr>
<tr>
<td>Height</td>
<td>no data</td>
<td>no data</td>
</tr>
<tr>
<td>Tree Size Class</td>
<td>no data</td>
<td>no data</td>
</tr>
</tbody>
</table>

**Upper layer lifeform differs from dominant lifeform. Height and cover of dominant lifeform are:**

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**Class C** 40%

Late1 Open

**Description**
Scattered large Jeffrey pine/white pine maintained by frequent low intensity fire.

**Indicator Species**
PIJE
PIMO

**Upper Layer Lifeform**
- Herbaceous
- Shrub
- Tree

**Fuel Model** no data

**Structure Data (for upper layer lifeform)**

<table>
<thead>
<tr>
<th></th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover</td>
<td>10%</td>
<td>40%</td>
</tr>
<tr>
<td>Height</td>
<td>no data</td>
<td>no data</td>
</tr>
<tr>
<td>Tree Size Class</td>
<td>no data</td>
<td>no data</td>
</tr>
</tbody>
</table>

**Upper layer lifeform differs from dominant lifeform. Height and cover of dominant lifeform are:**

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**Class D** 0%

Late1 Open

**Description**

**Indicator Species**
PIJE
PIMO

**Upper Layer Lifeform**
- Herbaceous
- Shrub
- Tree

**Fuel Model** no data

**Structure Data (for upper layer lifeform)**

<table>
<thead>
<tr>
<th></th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Height</td>
<td>no data</td>
<td>no data</td>
</tr>
<tr>
<td>Tree Size Class</td>
<td>no data</td>
<td>no data</td>
</tr>
</tbody>
</table>

**Upper layer lifeform differs from dominant lifeform. Height and cover of dominant lifeform are:**

---

**Class E** 0%

Late1 Closed

**Description**

**Indicator Species**
PIJE

**Structure Data (for upper layer lifeform)**

<table>
<thead>
<tr>
<th></th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover</td>
<td>0%</td>
<td>%</td>
</tr>
<tr>
<td>Height</td>
<td>no data</td>
<td>no data</td>
</tr>
<tr>
<td>Tree Size Class</td>
<td>no data</td>
<td>no data</td>
</tr>
</tbody>
</table>

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### Disturbances

**Non-Fire Disturbances Modeled**
- [ ] Insects/Disease
- [ ] Wind/Weather/Stress
- [ ] Native Grazing
- [ ] Competition
- [ ] Other:
- [ ] Other:

**Historical Fire Size (acres)**
- Avg:
- Min:
- Max:

**Sources of Fire Regime Data**
- [ ] Literature
- [ ] Local Data
- [ ] Expert Estimate

**Fire Regime Group:**
- 1
- I: 0-35 year frequency, low and mixed severity
- II: 0-35 year frequency, replacement severity
- III: 35-200 year frequency, low and mixed severity
- IV: 35-200 year frequency, replacement severity
- V: 200+ year frequency, replacement severity

**Fire Intervals (FI):**
- Fire interval is expressed in years for each fire severity class and for all types of fire combined (All Fires). Average FI is the central tendency modeled. Minimum and maximum show the relative range of fire intervals, if known. Probability is the inverse of fire interval in years and is used in reference condition modeling. Percent of all fires is the percent of all fires in that severity class. All values are estimates and not precise.

<table>
<thead>
<tr>
<th>Replacement</th>
<th>Avg FI</th>
<th>Min FI</th>
<th>Max FI</th>
<th>Probability</th>
<th>Percent of All Fires</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>200</td>
<td>100</td>
<td>300</td>
<td>0.005</td>
<td>7</td>
</tr>
<tr>
<td>Mixed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surface</td>
<td>15</td>
<td>10</td>
<td>20</td>
<td>0.06667</td>
<td>93</td>
</tr>
<tr>
<td>All Fires</td>
<td>14</td>
<td></td>
<td></td>
<td>0.07168</td>
<td></td>
</tr>
</tbody>
</table>

### References


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